REGION 6 EXECUTIVE SUMMARY

TOPIC: Reassessment of Dioxin at NPL Sites

DATE: April 8, 2013 CONTACT: Wren Stenger

PURPOSE/ACTION NEEDED: Informational only

BACKGROUND: Dioxins are produced as a by-product of combustion and chemical production (Agent Orange, Wood pulp bleaching, backyard trash burning and forest fires). The most toxic dioxin compound is 2,3,7,8-tetrachloro-p-dioxin (TCDD). Over the past 15 years, a number of new preliminary remediation goals (PRG) have emerged, which are more protective than the previous levels.

CURRENT STATUS: The old NPL dioxin sites should be reassessed using the new values to ensure protection of human health. Regions are in the process of developing strategies for reevaluating old NPL dioxin sites. The Region 6 reassessment includes the following steps:

- Desk top review: Identify the universe of sites and review available data. Include Five-Year Reviews and NPL Deletions.
- Data Gaps: Develop site-specific sampling plans, based on the Five-Year Reviews, and funding plans, if additional data is needed; notify HQs before initiating site sampling. Coordinate with HQ, states, tribes, local governments, and communities.
- Reassessment: Review all information; determine if additional investigation or cleanup is needed.
- Strategy: Develop a schedule and funding plan for addressing priority sites requiring additional cleanup**.** Notify HQs when cleanup is initiated at a site. Coordinate with HQ, states, tribes, local governments, and communities.

New EPA Values for Dioxin Cleanups

- Oral RfD of 0.7 pg/kg-day for non-cancer health effects.
- RfD drops the soil cleanup level from 1ppb (1000 ppt) to 50 ppt for residential exposure scenarios and from 5 ppb-20 ppb (5000 ppt to 20,000ppt) down to 665 ppt for commercial/Industrial scenario

Region 6 has 12 sites identified in the EPA Dioxin Master Site List prepared by EPA HQ (6-22-2012).

- 7 additional sites identified for dioxin reassessment based on ROD reviews.
- American Creosote – recently collected dioxin samples as part of larger sampling effort geared at collecting data needed for long-term remedy assessment. Awaiting laboratory results.
- Vertac – Recently funded Five-Year Review contract. Five-Year Review scheduled for 11/20/2013.
- Arkwood – Currently being reassessed for dioxin due to Partial Deletion request from landowner.

FIVE YEAR REVIEW SCHEDULE

SITE 5-Year Review Date

ID	Task Name	Finish
1	Hart Creosoting	Mon 12/17/12
2	Jasper Creosoting	Wed 1/30/13
3	Agriculture Street Landfill	Thu 4/25/13
4	Gulf Coast Vacuum Services	Mon 9/16/13
5	AT&SF Albuquerque	Sun 9/29/13
6	Vertac	Wed 11/20/13
7	Garland Creosoting	Tue 8/5/14
8	American Creoste	Tue 5/19/15
9	Mountain Pine Pressure Treating	Wed 9/23/15
10	Popile, Inc.	Wed 9/23/15
11	Jacksonville Landfill	Thu 9/24/15
12	Rogers Road Landfill	Thu 9/24/15
13	United Creosoting	Mon 9/28/15
14	Southern Shipbuilding	Wed 9/30/15
15	Midland Products	Wed 8/10/16
16	Arkwood	Tue 8/16/16
17	Texarkana Wood	Tue 9/27/16
18	PAB Oil & Chemical Service, Inc.	Wed 7/19/17
19	Marion Pressure Treating (TBD)	Thu 12/30/21

Site identified as part of EPA HQ Dioxin Master List in 2012.

Site identified based on ROD reviews.

ENVIRONMENTAL/PUBLIC HEALTH CONCERNS: High levels of Dioxin can cause cancer and other health effects. It causes non-cancer effects such as developmental and reproductive effects, damage to the immune system and interference in the hormonal balance endocrine system.

COMMUNITY CONCERNS: Dioxin sites are historically contentious, garnering extensive community issues, which potentially raise unrelated health concerns. Initiating site sampling and cleanups will stir up old fears and increase expectations.

RECOMMENDATIONS: Because dioxin data from the old NPL sites may be sparse, sampling may be needed. Dioxin testing is expensive, and remedial funds are limited. Full implementation of the dioxin reassessment is dependent on funding. Phasing reassessments through the Five-Year Review schedules may be the most efficient way to implement the dioxin reassessment. Using the new RfD value and associated cleanup level to re-evaluate previously investigated/cleaned-up sites helps ensure protection of human health.

History of PRGs developed for soil

PRGs	Residential Soil PRGs (ppt)TEQs	Risk Associated with PRGs	Commercial/ Industrial soil PRGs (PPT)TEQs	Risk Associated with PRGs
1998 OSWER Guidance	1000	2.5 E-4 (excess cancer risk)	5000 -20,000	1.3E-4 (excess cancer risk)
2009 Draft Interim PRGs	72 ppt	1 HI (non-cancer) ~2E-05	950 ppt	1 HI (non-cancer) ~2E-05
Alternative 2009 interim PRGs	3.7 ppt	1E-06 (excess cancer risk)	17 ppt	1E-06 (excess cancer risk)
2012 Final PRGs	50 ppt	1 HI (non-cancer) ~1E-05	665 ppt	1 HI (non-cancer) ~1E-05
Background Levels in US soils	Rural soil 0.2 – 11.2 ppt AVG 1.8 ppt		Urban soil 0.2 – 110 ppt AVG 6.0 ppt	

The 2009 Interim and Alternative PRGs were withdrawn.